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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,520	12/09/2003	Brian Paul Gaucher	YOR920030232US1 (8728-630)	3725
46069	7590	12/14/2007	EXAMINER	
F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			ALEMU, EPHREM	
			ART UNIT	PAPER NUMBER
			2821	
			MAIL DATE	DELIVERY MODE
			12/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/731,520	Applicant(s) GAUCHER ET AL.	
	Examiner Ephrem Alemu	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/26/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Morgan (Eigenmode Analysis of Dielectric Loaded Top-Hat Monopole Antennas), previously submitted by applicant.

Re claim 1, Morgan discloses an antenna (i.e., dielectric loaded antenna), the antenna (i.e., dielectric loaded antenna) (Figs. 1, 7, 10, 12, 14) comprising:

a substrate (i.e., dielectric coating 2) (Figs. 1, 7, 10, 12, 14); and

a conductive via stub (i.e., monopole or dipole) formed in the substrate (i.e., dielectric coating 2) (Figs. 1, 7, 10, 12, 14), wherein the conductive via stub (i.e., in a form of a monopole) is a radiating element (Figs. 1, 7, 10, 12, 14; page 54, Col. 1, 2nd paragraph).

Re claims 2, 3 and 7, Morgan further discloses a ground plane formed on a surface of the substrate (i.e., bottom surface of dielectric coating 2) (Figs. 1, 7, 10, 12, 14); and

a hat element (i.e., circular top hat) formed on one end of the conductive via stub (i.e., top end of monopole or dipole) (Figs. 1, 7, 10, 12, 14; page 54, Col. 1, 2nd paragraph; wherein the antenna is an omni-directional antenna or a directional antenna).

3. Claims 1, 2, 3, 7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawahata et al. (5,581,262)

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Re claims 1, 2, 3, 7 and 10, Kawahata discloses a known wireless device (i.e., a radio communication) comprising antenna (i.e., dielectric loaded antenna 56), the antenna (i.e., dielectric loaded antenna 56) (Fig. 7) comprising:

a substrate (i.e., dielectric base 51) (Fig. 1; abstract; Col. 1, lines 26-36);

ground plane (i.e., male connector 55) formed on a surface of the substrate (i.e., dielectric base) (Fig. 7; Col. 1, lines 13-27); and

a conductive via stub (i.e., radiation electrode 53) formed in the substrate (i.e., dielectric base 51), wherein the conductive via stub (i.e., radiation electrode 53) is a radiating element (Fig. 7; Col. 1, lines 13-27);

a ground plane (i.e., male connector 55) formed on a surface of the substrate (i.e., bottom surface of dielectric base 51) (Fig. 7; Col. 1, lines 13-27); and

a hat element (i.e., surface electrode 54) formed on one end of the conductive via stub (i.e., top end of radiating electrode 53) (Fig. 7; Col. 1, lines 13-27; wherein the antenna is an omni-directional antenna or a directional antenna).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-6, 8, 9 and 11-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pande et al. (US 6,640,084), previously cited, in view of Morgan (Eigenmode Analysis of Dielectric Loaded Top-Hat Monopole Antennas), previously submitted by applicant.

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Re claims 11, 12, 20, 22, 23, 24 and 25, Pande discloses an integrated communications device (i.e., outdoor radio unit) comprising:

an IC (integrated circuit) chip (MMICs) and an antenna (12) bonded to the IC chip (i.e., transceiver of the electronic equipment).

Pande does not show the antenna (1) comprising: a substrate; and at least one radiating element (hat element) formed on one end of a conductive via stub extending through apertures and conductive shorting element extends through an aperture formed in the substrate; wherein the conductive via stub (i.e., conical concavity 11) is a radiating element (Fig. 1; abstract; Col. 1, lines 26-36; Col. 12; lines 6-15).

Morgan discloses an antenna (i.e., dielectric loaded antenna), the antenna (i.e., dielectric loaded antenna) (Figs. 1, 7, 10, 12, 14) comprising: a substrate (i.e., dielectric coating 2) (Figs. 1, 7, 10, 12, 14); a conductive via stub (i.e., monopole or dipole) formed in the substrate (i.e., dielectric coating 2) (Figs. 1, 7, 10, 12, 14), wherein the conductive via stub (i.e., in a form of a monopole) is a radiating element (Figs. 1, 7, 10, 12, 14; page 54, Col. 1, 2nd paragraph); a ground plane formed on a surface of the substrate (i.e., bottom surface of dielectric coating 2) (Figs. 1, 7, 10, 12, 14); and a hat element (i.e., circular top hat) formed on one end of the conductive via stub (i.e., top end of monopole or dipole) (Figs. 1, 7, 10, 12, 14; page 54, Col. 1, 2nd paragraph; wherein the antenna is an omni-directional antenna or a directional antenna)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the antenna of Pande's integrated communications device (i.e., outdoor radio unit) with Morgan's antenna for the purpose reducing the size of the antenna.

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Re claims 4, 5, 14, 15, 16, 17, 18 and 19, given Pande's modified by Morgan's, providing a plurality of patterned layers having a ground plane (13) formed on a surface of the substrate (i.e., dielectric material 10) of the antenna (1); impedance matching network being formed from the plurality of patterned layers comprises a microstrip transmission line; an insulation layer being formed on the ground plane; the plurality of patterned layers formed between the antenna (1) and IC chip (MMICs) for providing electrical interconnections would have been within a skill of an artisan.

Re claims 6 and 21, Pande further shows the antenna having a radio frequency of about 20 GHz or greater (Figs. 1, 2; Col. 7, line 38- Col. 8, line 27).

Re claims 8 and 9, Pande further shows the substrate comprise a dielectric (i.e., dielectric material 10). Therefore, the substrate comprising a printed circuit board would have been an obvious design choice since it is well known in the antenna art that antenna being formed on a substrate comprising a dielectric material or semiconductor material or a printed circuit board.

Re claim 13, Pande further shows the IC (integrated circuit) chip (i.e., MMICs) comprise a transceiver (14) (Figs. 1, 2; Col. 7, lines 38- 55).

Re claims 26-33 and 34-38, given Pande's modified by Morgan's integrated communications device (i.e., outdoor radio unit) as discussed above in claims 1, 4, 5, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23 and 25, the method for constructing an antenna and/or an integrated communication apparatus as claimed in claims 26-33 and/or 34-38 is inevitable.

Response to Arguments

6. Applicant's arguments with respect to claims 1-38 have been considered but are moot in view of the new grounds of rejection.

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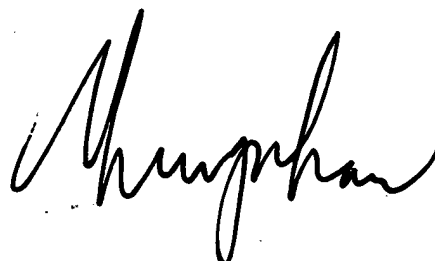
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ephrem Alemu whose telephone number is (571) 272-1818. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Owens can be reached on (571) 272-1834662. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EA
12-10-07



**THUY V. TRAN
PRIMARY EXAMINER**